Stormwater Management Program (SWMP)

Town of Uxbridge

21 S Main St, Uxbridge, MA 01569

EPA NPDES Permit Number MAR - 04-1166

Certification

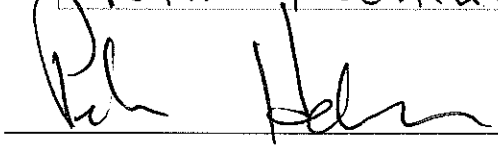
Authorized Representative (Optional): All reports, including SWPPPs, inspection reports, annual reports, monitoring reports, reports on training and other information required by this permit must be signed by a person described in Appendix B, Subsection 11.A or by a duly authorized representative of that person in accordance with Appendix B, Subsection 11.B. If there is an authorized representative to sign MS4 reports, there must be a signed and dated written authorization.
The authorization letter is:

☐ Attached to this document (document name listed below)

☐ Publicly available at the website below

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed Name: Peter Hochenbleichner

Signature: 

Date: 6-27-19

Click Here for Revisions

Background

Stormwater Regulation

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in EPA's effort to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II program expands the Phase I program by requiring additional operators of MS4s in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to control polluted stormwater runoff. Phase II is intended to further reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Under the Phase II rule all MS4s with stormwater discharges from Census designated Urbanized Area are required to seek NPDES permit coverage for those stormwater discharges.

Permit Program Background

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 small MS4 permit) consistent with the Phase II rule. The 2003 small MS4 permit covered "traditional" (i.e., cities and towns) and "non-traditional" (i.e., Federal and state agencies) MS4 Operators located in the states of Massachusetts and New Hampshire. This permit expired on May 1, 2008 but remained in effect until operators were authorized under the 2016 MS4 general permit, which became effective on July 1, 2018.

Stormwater Management Program (SWMP)

The SWMP describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP accurately describes the permittees plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions during the permit term. The main elements of the stormwater management program are (1) a public education program in order to affect public behavior causing stormwater pollution, (2) an opportunity for the public to participate and provide comments on the stormwater program (3) a program to effectively find and eliminate illicit discharges within the MS4 (4) a program to effectively control construction site stormwater discharges to the MS4 (5) a program to ensure that stormwater from development projects entering the MS4 is adequately controlled by the construction of stormwater controls, and (6) a good housekeeping program to ensure that stormwater pollution sources on municipal properties and from municipal operations are minimized.

Town Specific MS4 Background (optional)

Small MS4 Authorization

The NOI was submitted on Oct 1, 2018

The NOI can be found at the following (document name or web address):

http://www.uxbridge-ma.gov/Pages/UxbridgeMA_DPW/Stormwater

Authorization to Discharge was granted on Jun 4, 2019

The Authorization Letter can be found (document name or web address):

http://www.uxbridge-ma.gov/Pages/UxbridgeMA_DPW/Stormwater

Stormwater Management Program Team

SWMP Team Coordinator

Name	Benn S. Sherman, P.E.	Title	Director
Department	Department of Public Works		
Phone Number	(508) 278-8616	Email	bsherman@uxbridge-ma.gov
Responsibilities	Facilitate and support program.		

SWMP Team

Name	Paul Hutnak	Title	Civil Engineer
Department	Department of Public Works		
Phone Number	(508) 278-8616	Email	phutnak@uxbridge-ma.gov
Responsibilities	Facilitate and support program.		

Name		Title	
Department			
Phone Number		Email	
Responsibilities			

Add SWMP Member

Receiving Waters

The following table lists all receiving waters, impairments and number of outfalls discharging to each waterbody segment.

OR

The information can be found in the following document or at the following web address:

Note: Revised through June 20, 2019. Updated outfall totals, added 5 interconnection outfalls to outfalls listed in NOI.

Waterbody segment that receives flow from the MS4	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/ DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Drabbletail Brook	31	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Mumford River MA 51-14	31	☐	☐	☐	☐	☐	☐	☐	☐	☐	Aquatic Plants (macrophytes), Copper, Lead)
Dunleavy Brook	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Dunleavy Pond	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Lackey Pond	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Blackstone River MA (51-04 & 51-05)	53	☐	☐	☐	☐	☐	☒	☒	☒	☐	Aquatic macroinvertebrate bioassessments, cadmium, copper, excess algal growth, lead, nutrient/eutrophication biological indicators, pcbs, taste and odor, and turbidity, DDT
Still Corner Brook	7	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Farrell Brook	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Cold Spring Brook	19	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Rivulet Pond MA 51138	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Taft Pond	8	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Whitin Pond	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Hecla Canal	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Happy Hollow Brook	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Blackstone Canal	9	☐	☐	☐	☐	☐	☐	☐	☐	☐	
West River MA 51-12	43	☐	☐	☐	☐	☐	☐	☐	☐	☐	Cadmium, chloride, copper, lead, nutrient/eutrophication biological indicators, low pH

Waterbody segment that receives flow from the MS4	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/ DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Bacon Brook	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Ironstone Reservoir MA51074	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Rivulet Brook	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	

Click here to lengthen table

Eligibility: Endangered Species and Historic Properties

*Reminder: The proper consultations and updates to the SWMP must be conducted for construction projects related to your permit compliance where Construction General Permit (CGP) coverage, which requires its own endangered species and history preservation determination, is NOT being obtained.

Attachments:

- ☐ The results of Appendix C U.S. Fish and Wildlife Service endangered species screening determination
- ☐ The results of the Appendix D historic property screening investigations
- ☐ If applicable, any documents from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other Tribal representative to mitigate effects

These attachments are required within one year of the permit effective date and are:

- ☐ Attached to this document (document names listed below)

- ☐ Publicly available at the website listed below

Under what criterion did permittee determine eligibility for ESA?

☐ Criterion A ☐ Criterion B ☒ Criterion C

Under what criterion did permittee determine eligibility for Historic Properties?

☒ Criterion A ☐ Criterion B ☐ Criterion C ☐ Criterion D (NH only)

Below add any additional measures for structural controls that you're required to do through consultation with U.S. Fish and Wildlife Service (if applicable):

Below add any additional measures taken to avoid or minimize adverse impacts on places listed, or eligible for listing, on the NRHP, including any conditions imposed by the SHPO or THPO (if applicable):

MCM 1
Public Education and Outreach
Permit Part 2.3.2

Objective: The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public education program is to increase knowledge and change behavior of the public so that the pollutants in stormwater are reduced.

Examples and Templates:
EPA's Stormwater Education Toolbox
MassDEP's Stormwater Outreach Materials

Other templates relevant to MCM 1 can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#peo

BMP: Post on Social Media/Town Website

BMP Number (Optional) **1.1**

Document Name and/or Web Address: https://www.thinkbluemassachusetts.org/
https://www.centralmastormwater.org/
(links posted on Town website and DPW Facebook page)

Description:
Promote stormwater awareness through social media and town web page link to Central Massachusetts Regional Stormwater Coalition(CMRSWC) and Think Blue Massachusetts.

Targeted Audience: Residents

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):
Track number of posts and followers.

Message Date(s): 2018

BMP: Post on Social Media/Town Website

BMP Number (Optional) **1.2**

Document Name and/or Web Address: https://www.thinkbluemassachusetts.org/
https://www.centralmastormwater.org/
(links posted on Town website and DPW Facebook page)

Description:
Promote stormwater awareness through social media and town web page link to CMRSWC and Think Blue Massachusetts.

Targeted Audience: Businesses, institutions and commercial facilities, Developers (construction), Industrial f

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):
Track number of posts and followers.

Message Date(s): 2018

BMP:Classroom Education on Stormwater

BMP Number (Optional) **1.3**

Document Name and/or Web Address: N/A

Description:

Provide classroom education on stormwater awareness.

Targeted Audience: Residents

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Quantity of students.

Message Date(s): 2021

BMP: Flyer Distribution

BMP Number (Optional) **1.4**

Document Name and/or Web Address: Pollution Prevention for Businesses (STORMWATER\MS4\Uxbridge Public Education and Outreach\Business-Institution-Commercial\ms4-p2-businesses-Uxbridge.doc)

Description:

Flyer for Pollution Prevention. Distributed with Utility Bills by Use Type.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Quantify number of brochures distributed.

Message Date(s): 2021

BMP: Flyer Distribution

BMP Number (Optional) **1.5**

Document Name and/or Web Address: Builder's Guide to Low Impact Development (STORMWATER\MS4\Uxbridge Public Education and Outreach\Developers\Builder_LID.pdf)

Description:
Flyer for Low Impact Development Benefits. To be Placed in Planning and Conservation Offices.

Targeted Audience: Developers (construction)

Responsible Department/Parties: Conservation Commission & Planning Board

Measurable Goal(s):
Quantify number of brochures taken.

Message Date(s): 2021

BMP: Flyer Distribution

BMP Number (Optional) **1.6**

Document Name and/or Web Address: Stormwater Pollution Prevention For Industrial Sites (STORMWATER\MS4\Uxbridge Public Education and Outreach \Industrial\ms4-industrial-bmps-Uxbridge.doc

Description:
Flyer for Pollution Prevention for Industrial Sites. Distributed with Utility Bills for Industrial Zone Users..

Targeted Audience: Industrial facilities

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):
Quantify number of brochures distributed.

Message Date(s): 2021

BMP:[BMP name here]

BMP Number (Optional)

Document Name and/or Web Address:

Description:

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Message Date(s):

BMP:[BMP name here]

BMP Number (Optional) _____

Document Name and/or Web Address:

Description:

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Message Date(s):

Add BMP

MCM 2
Public Involvement and Participation
Permit Part 2.3.3

Objective: The permittee shall provide opportunities to engage the public to participate in the review and implementation of the permittee's SWMP.

BMP: Public Review of Stormwater Management Program

BMP Number (Optional) **2.1**

Location of Plan and/or Web Address: DPW (Paper) & http://www.uxbridge-ma.gov/Pages/UxbridgeMA_DPW/Stormwater

Responsible Department/Parties: Department of Public Works and Stormwater Committee

Measurable Goal(s):

Stormwater Management Plan is publicly available.

BMP: Public Participation in Stormwater Management Program Development

BMP Number (Optional) **2.2**

Description:

Allow public to comment on stormwater management plan annually.

Responsible Department/Parties: Department of Public Works, Conservation Commission and Stormwater C

Measurable Goal(s):

Annual public input provided.

BMP: Service Request System, Tracks Incoming Questions/Comments from the Community

BMP Number (Optional) **2.3**

Document Name and/or Web Address: See Click Fix (Website) & Work Order System (Phone Calls)

Description:

Maintain DPW Phone Line for community questions, concerns, and reporting.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Track number of calls and issues presented.

BMP: Stormwater Committee

BMP Number (Optional) **2.4**

Document Name and/or Web Address: Stormwater Regulations

Description:

Review procedures and regulations for MS4 compliance.

Responsible Department/Parties: Department of Public Works, Conservation Commission and Planning Boa

Measurable Goal(s):

Ensure compliance with MS4 program.

BMP: Storm Cleanup and Monitoring

BMP Number (Optional) **2.5**

Document Name and/or Web Address: N/A

Description:

Perform cleanup of trash and litter.

Responsible Department/Parties: Conservation Commission

Measurable Goal(s):

Two cleanups scheduled per year.

BMP: Illegal Dumping Education and Citizen Reporting

BMP Number (Optional) **2.6**

Document Name and/or Web Address: ***

Description:

Continue to provide education materials regarding illegal dumping and record quantity distributed.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Record number of reported incidents.

BMP: Post Outfall Signage

BMP Number (Optional) **2.7**

Document Name and/or Web Address: N/A

Description:

Post signage at MS4 outfalls.

Responsible Department/Parties: Department of Public Works, Conservation Commission and Stormwater C

Measurable Goal(s):

Quantify number of signs installed.

Add BMP

MCM 3
Illicit Discharge Detection and Elimination (IDDE) Program

Permit Part 2.3.4

Objective: The permittee shall implement an IDDE program to systematically find and eliminate illicit sources of non-stormwater discharges to its municipal separate storm sewer system and implement procedures to prevent such discharges.

Examples and Templates:
IDDE Program Template and SOPs

Other templates relevant to IDDE can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#idde

BMP: IDDE Legal Authority

BMP Number (Optional) **3.1** **Completed** (by May 1, 2008) ☒

Ordinances Link or Reference: Stormwater Bylaw (Uxbridge General Bylaws, Chapter 290)

Department Responsible for Enforcement: Planning Board

BMP: Sanitary Sewer Overflow (SSO) Inventory

BMP Number (Optional) **3.2** **Completed** (by year 1) ☒

Document Name and/or Web Address: Illicit Discharge Detection and Elimination (IDDE) Plan, Town of Uxbridge

Description:

Index of SSO's within the previous 5 years with all relevant information.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Annually track and report the following SSO information: the location; a clear statement of whether the discharge entered a surface water directly or entered the MS4; date(s) and time(s) of each known SSO occurrence; estimated volume(s) of the occurence; description of the occurrence indicating known or suspected cause(s); mitigation and corrective measures completed with dates implemented; and mitigation and corrective measures planned with implementation schedules. Update inventory as needed.

SSO Reporting:

In the event of an overflow or bypass, a notification must be reported within 24 hours by phone to MassDEP, EPA, and other relevant parties. Follow up the verbal notification with a written report following MassDEP's Sanitary Sewer Overflow (SSO)/Bypass notification form within 5 calendar days of the time you become aware of the overflow, bypass, or backup.

The MassDEP contacts are:	The EPA contacts are:
Northeast Region (978) 694-3215 205B Lowell Street Wilmington, MA 01887 Central Region (508) 792-7650 8 New Bond Street Worcester, MA 01606 Southeast Region (508) 946-2750 20 Riverside Drive Lakeville, MA 02347 Western Region (413) 784-1100 436 Dwight Street Springfield, MA 01103 24-hour Emergency Line 1-888-304-1133	EPA New England (617) 918-1510 5 Post Office Square Boston, MA 02109

BMP: Map of Storm Sewer System

BMP Number (Optional) **3.3**

Phase I Completed (by year 2) ☐ **Phase II Completed** (by year 10) ☐

Document Location and/or Web Address: http://www.uxbridge-ma.gov/Pages/UxbridgeMA_DPW/Stormwater%20Atlas/SW%20Atlas.pdf

Description:

See below.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Map 100% of outfalls and receving waters, open channel conveyances, interconnections with other MS4s and other storm sewer systems, municipally-owned stormwater treatment structures, waterbodies identified by name and indication of all use impairments, and initial catchment delineations within 2 years of the permit's effective date. Map 100% of outfall spatial locations, pipes, manholes, catch basins, refined catchment delineations, municipal sanitary sewer system (if available), and municipal combined sewer system (if applicable) within 10 years of the permit's effective date.

BMP: IDDE Program

BMP Number (Optional) **3.4**

Written Document Completed (by year 1) ☒

Document Name and/or Web Address: IDDE Plan, Town of Uxbridge

Description:

Create written IDDE program. Implement catchment investigations according to program and permit conditions. Conduct dry weather and wet weather screening (as necessary). Conduct in accordance with outfall screening procedure and permit conditions.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Conduct 100% of outfall screening on High and Low Priority Outfalls within 3 years of the permit's effective date. Complete catchment investigations for 100% of the Problem Outfalls within 7 years of the permit's effective date. Complete 100% of all catchment investigations within 10 years of the permit's effective date.

The outfall/interconnection inventory and initial ranking and the dry weather outfall and interconnection screening and sampling results can be found:

BMP: Employee Training

BMP Number (Optional) **3.5**

Description:

Train employees on IDDE implementation.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Training occurs annually. Training dates are logged within the IDDE Plan and are listed in the annual report.

BMP: Conduct Dry Weather Screening

BMP Number (Optional) **3.6** **Completed** ☐

Document Name and/or Web Address: IDDE Plan, Town of Uxbridge

Description:

Conduct in accordance with outfall screening procedure and permit conditions.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Complete 3 years after effective date of permit. Report sample results in each annual report.

BMP: Conduct Wet Weather Screening

BMP Number (Optional) **3.7** **Completed** ☐

Document Name and/or Web Address: IDDE Plan, Town of Uxbridge

Description:

Conduct in accordance with outfall screening procedure.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Complete within 10 years after effective date of permit. Report sample results in each annual report.

BMP: Ongoing Screening

BMP Number (Optional) **3.8** **Completed** ☐

Document Name and/or Web Address: IDDE Plan, Town of Uxbridge

Description:

Conduct dry weather and wet weather screening (as necessary).

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Complete ongoing outfall screening upon completion of IDDE program and report on sample results in each annual report.

Add BMP

MCM 4

Construction Site Stormwater Runoff Control

Permit Part 2.3.5

Objective: The objective of an effective construction stormwater runoff control program is to minimize or eliminate erosion and maintain sediment on site so that it is not transported in stormwater and allowed to discharge to a water of the U.S. through the permittee's MS4.

Examples and Templates:
Examples and templates relevant to MCM 4, including model ordinances and site inspection templates, can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#csrc

BMP: Sediment and Erosion Control Ordinance

BMP Number (Optional) **4.1** **Completed** (by May 1, 2008) ☒

Ordinances Link or Reference: Stormwater Bylaw (General Bylaw) and Regulations

Department Responsible for Enforcement: DPW, Conservation Commission, Planning Board, & Stormwater Committee

---

BMP: Site Plan Review Procedures

BMP Number (Optional) **4.2** **Written procedures completed** (by year 1) ☒

Document Name and/or Web Address: Zoning Bylaw, Stormwater Bylaw (General Bylaw) and Regulations

Description:

Complete written procedures of site plan review and begin implementation.

Responsible Department/Parties: DPW, Conservation Commission, Planning Board, & Stormwater Committ

Measurable Goal(s):

Conduct site plan review of 100% of projects according to the procedures outlined above.

BMP: Site Inspections and Enforcement of Sediment and Erosion Control Measures Procedures

BMP Number (Optional) **4.3** **Completed** (by year 1) ☒

Document Name and/or Web Address: Stormwater Bylaw (General Bylaw) and Regulations

Description:

Complete written procedures of site inspections and enforcement procedures.

Responsible Department/Parties: DPW, Conservation Commission, Planning Board, & Stormwater Committ

Measurable Goal(s):

Inspect 100% of construction sites as outlined in the above document and take enforcement actions as needed.

BMP:Erosion and Sediment Control

BMP Number (Optional) **4.4** **Completed** ☒

Document Name and/or Web Address: Stormwater Bylaw (General Bylaw) and Regulations

Description:

Adoption of requirements for construction operators to implement a sediment and erosion control program.

Responsible Department/Parties: DPW, Conservation Commission, Planning Board, & Stormwater Committ

Measurable Goal(s):

Complete within 1 year of the effective date of permit.

BMP:Waste Control

BMP Number (Optional) **4.5** **Completed** ☒

Document Name and/or Web Address: Stormwater Bylaw (General Bylaw) and Regulations

Description:

Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes.

Responsible Department/Parties: DPW, Conservation Commission, Planning Board, & Board of Health

Measurable Goal(s):

Complete within 1 year of the effective date of permit.

Add BMP

MCM 5

Post Construction Stormwater Management in New Development and Redevelopment

Permit Part 2.3.6

Objective: The objective of an effective post construction stormwater management program is to reduce the discharge of pollutants found in stormwater to the MS4 through the retention or treatment of stormwater after construction on new or redeveloped sites and to ensure proper maintenance of installed stormwater controls.

Examples and Templates:
Examples and templates relevant to MCM 5, including model ordinances and bylaw review templates and guidance can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#pcsm

BMP: Post-Construction Ordinance

BMP Number (Optional) **5.1** **Completed** (by year 2) ☐

Town Ordinances Link or Reference: ***

Department Responsible for Enforcement: Conservation Commission and Planning Board

---

BMP: Street Design and Parking Lot Guidelines Report

BMP Number (Optional) **5.2** **Completed** (by year 4) ☐

Document Name and/or Web Address: ***

Description:

Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.

Responsible Department/Parties: SW Committee, Planning Board, Conservation Commission, and DPW

Measurable Goal(s):

Recommendations are implemented by (DATE) with progress reported annually.

BMP: Green Infrastructure Report

BMP Number (Optional) **5.3** **Completed** (by year 4) ☐

Document Name and/or Web Address: ***

Description:

Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist.

Responsible Department/Parties: Stormwater Committee, DPW, Conservation Commission, & Planning Boa

Measurable Goal(s):

Recommendations are implemented by year 4 with progress reported annually.

BMP: List of Municipal Retrofit Opportunities

BMP Number (Optional) **5.4** **Completed** (by year 4) ☐

Document Name and/or Web Address: ***

Description:

Identify at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually.

Responsible Department/Parties: DPW, Planning Board, and Conservation Commission

Measurable Goal(s):

The list is completed by year 4 and updated as needed.

BMP:As-built Plans for On-site Stormwater Control

BMP Number (Optional) **5.5** **Completed** ☐

Document Name and/or Web Address: Stormwater Bylaw (General Bylaw) and Regulations

Description:

The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP.

Responsible Department/Parties: DPW, Planning Board, and Conservation Commission

Measurable Goal(s):

Require submission of as-built plans for completed projects.

BMP: Stormwater Controls Compliance Check

BMP Number (Optional) **5.6** **Completed** ☐

Document Name and/or Web Address: ****

Description:

Ensure any stormwater controls or management practices for new development and redevelopment meet the retention or treatment requirements of the permit and all applicable requirements of the Massachusetts Stormwater Handbook. Adoption, amendment, or modification of a regulatory mechanism to meet permit requirements. Include LID and BMP strategies.

Responsible Department/Parties: DPW, Planning Board, and Conservation Commission

Measurable Goal(s):

Complete 2 years after effective date of permit

Add BMP

MCM 6

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Permit Part 2.3.7

Objective: The permittee shall implement an operations and maintenance program for permittee-owned operations that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned operations.

Examples and Templates:
Examples and templates relevant to MCM 6, including SOP templates for catch basin cleaning, street sweeping, vehicle maintenance, parks and open space management, winter deicing, and Stormwater Pollutoin Prevention Plans can be found here: https://www.epa.gov/npdes-permits/stormwater-tools-new-england#gh

PERMITTEE OWNED FACILITIES

BMP: Parks and Open Spaces Operations and Maintenance Procedures

BMP Number (Optional) **6.1** **Written Document Completed** (by year 2) ☒

Document Name and/or Web Address: SOP 19: Operations and Maintenance of Parks and Open Space

Description:

Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Implement the SOP listed above on 100% of the parks and open spaces.

Properties List (Optional):

BMP: Buildings and Facilities Operations and Maintenance Procedures

BMP Number (Optional) **6.2** **Written Document Completed** (by year 2) ☐

Document Name and/or Web Address: ***

Description:

Create written O&M procedures including all requirements contained in 2.3.7.a.ii for buildings and facilities.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Implement the SOP listed above on 100% of buildings and facilities.

Properties List (Optional):

BMP: Vehicles and Equipment Operations and Maintenance Procedures

BMP Number (Optional) **6.3** **Written Document Completed** (by year 2) ☐

Document Name and/or Web Address: ***

Description:

Create written O&M procedures including all requirements contained in 2.3.7.a.ii for vehicles and equipment.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Implement the SOP listed above for 100% of vehicles and equipment according to the above document.

Properties List (Optional):

INFRASTRUCTURE

BMP: Infrastructure Operations and Maintenance Procedures

BMP Number (Optional) **6.4** **Written Procedure Completed** (by year 2) ☐

Document Name and/or Web Address: ***

Description:

Establish and implement program for repair and rehabilitation of MS4 infrastructure.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

100% of infrastructure is maintained to ensure proper function in accordance with the procedures above.

BMP: Catch Basin Cleaning Program

BMP Number (Optional) **6.5** **Written Procedure Completed** (by year 1) ☒

Document Name and/or Web Address: SOP 3: Catch Basin Inspection and Cleaning

Description:

Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

All catch basins are cleaned in accordance to the document above such that no catch basin is more than 50% full at any given time.

BMP: Street Sweeping Program

BMP Number (Optional) **6.6** **Written Procedure Completed** (by year 1) ☒

Document Name and/or Web Address: SOP 16: Streets and Parking Lots

Description:

Sweep all streets and permitee-owned parking lots in accordance with permit conditions.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Annually sweep 100% of all streets and 50% of all municipal parking lots in accordance with the schedule listed above.

BMP: Winter Road Maintenance Program

BMP Number (Optional) **6.7** **Written Procedure Completed** (by year 1) ☒

Document Name and/or Web Address: SOP 18: Winter Road Maintenance

Description:

Establish and implement a program to minimize the use of road salt.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Evaluate at least one salt/chloride alternative for use in the municipality.

BMP: Stormwater Treatment Structures Inspection and Maintenance Procedures

BMP Number (Optional) **6.8** **Completed** (by year 1) ☒

Document Name and/or Web Address: SOP 9: Inspection and Maintenance of Structural Stormwater Best Management Practices (BMP)

Description:

Establish and implement inspection and maintenance procedures and frequencies.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Inspect and maintain 100% of treatment structures to ensure proper function.

BMP: SWPPP

BMP Number (Optional) **6.9** **Completed** (by year 2) ☐

Document Name and/or Web Address: ***

Description:

Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Develop and implement SWPPPs for 100% of facilities.

BMP:Inventory All Permittee-owned Parks, Open Spaces, Buildings, Facilities, Vehicles and Equipment

BMP Number (Optional) **6.10** **Completed** ☐

Document Name and/or Web Address: ***

Description:

Create inventory.

Responsible Department/Parties: Department of Public Works

Measurable Goal(s):

Complete 2 years after effective date of permit and implement annually.

Add BMP

Annual Evaluation

Year 1 Annual Report

Document Name and/or Web Address:

Year 2 Annual Report

Document Name and/or Web Address:

Year 3 Annual Report

Document Name and/or Web Address:

Year 4 Annual Report

Document Name and/or Web Address:

Year 5 Annual Report

Document Name and/or Web Address:

Year X Annual Report

Document Name and/or Web Address:

Add a Year

TMDLs and Water Quality Limited Waters

Select the applicable Impairment(s) and/or TMDL(s).

Impairment(s)

☒ Bacteria/Pathogens ☒ Chloride ☐ Nitrogen ☒ Phosphorus

☒ Solids/oil/grease (hydrocarbons)/metals

TMDL(s)

In State:

☐ Assabet River Phosphorus ☐ Bacteria and Pathogen ☐ Cape Cod Nitrogen

☐ Charles River Watershed Phosphorus ☐ Lake and Pond Phosphorus

Out of State:

☐ Bacteria and Pathogen ☐ Metals ☐ Nitrogen ☐ Phosphorus

Clear Impairments and TMDLs

Bacteria/Pathogens

Combination of Impaired Waters Requirements and TMDL Requirements as Applicable

Applicable Receiving Waterbody(ies)	**TMDL Name** (if applicable)	**Add/Delete Row**
Blackstone River MA 51-04		+ -
Blackstone River MA 51-05		+ -

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 3.3, 3.4

Public Education and Outreach

(Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information))

Annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 1.1, 1.2, 1.3

Permittee or its agents disseminate educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 1.1

Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 1.1, 1.2, 1.3

Chloride

Applicable Receiving Waterbody(ies)	TMDL Name (if applicable)	Add/Delete Row
West River MA 51-12		+ -

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 3.3, 3.4

Public Education and Outreach

(Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information))

Include an annual message in November/December to private road salt applicators and commercial industrial site owners on the proper storage and application rates of winter deicing material, along with the steps that can be taken to minimize salt use and protect local waterbodies

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 1.2

Requirements Due by Year 3

Develop a Salt Reduction Plan

The document name (if attached) and/or web address is/are:

Requirements Due by Year 4

Continue implementation of the Salt Reduction Plan

Requirements Due by Year 5

Fully implement the Salt Reduction Plan

Solids, Oil and Grease (Hydrocarbons), or Metals

Combination of Impaired Requirements and TMDL Requirements as Applicable

Applicable Receiving Waterbody(ies)	TMDL Name (if applicable)	Add/Delete Row
Blackstone River MA 51-05		+ -
Blackstone River MA 51-04		+ -
Mumford River MA 51-14		+ -
West River MA 51-12		+ -

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 3.3, 3.4

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

---

Increase street sweeping frequency of all municipal owned streets and parking lots to a schedule to target areas with potential for high pollutant loads

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 6.6

Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full; Clean catch basins more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 6.5

Requirements Due by Year 2

Stormwater Management in New Development and Redevelopment

Stormwater management systems designed on commercial and industrial land use area draining to the water quality limited water body shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

Phosphorus

Combination of Impaired Waters Requirements and TMDL Requirements as Applicable

Applicable Receiving Waterbody(ies)	TMDL Name (if applicable)	Add/Delete Row
Blackstone River MA 51-05		+ -
Blackstone River MA 51-04		+ -

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 3.3, 3.4

Public Education and Outreach

(Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information))

Distribute an annual message in the spring(April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorus-free fertilizers

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 1.1, 1.2

Distribute an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 1.1, 1.2

Distribute an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 1.1, 1.2

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 6.6

Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 6.1 (YEAR 2)

Stormwater Management in New Development and Redevelopment

Retrofit inventory and priority ranking under 2.3.6.1.b. shall include consideration of BMPs to reduce nitrogen discharges

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

BMP 5.4 (YEAR 4)

Nitrogen Reduction Tracking BMP

Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus removal by the BMP consistent with Attachment 1 to Appendix H.

The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in pass per year by the BMP is found in the following document or website and is updated yearly at a minimum:

BMP 5.4 (YEAR 5)

Requirements Due by Year 2

Stormwater Management in New Development and Redevelopment

The requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

Requirements Due by Year 4

Complete a Phosphorus Source Identification Report

The document name (if attached) and/or web address is/are:

Stormwater Management in New Development and Redevelopment

Retrofit inventory and priority ranking under 2.3.6.1.b. shall include consideration of BMPs that infiltrate stormwater where feasible

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

Requirements Due by Year 5

Potential Structural BMPs

Evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under Permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the impaired water or its tributaries

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

Complete a listing of planned structural BMPs and a plan and schedule for implementation

The relevant BMP number(s) listed above in the Stormwater Management Program OR the description of implementation actions and document location(s) are:

SOP 3: Catch Basin Inspection and Cleaning

Introduction

Catch basins help minimize flooding and protect water quality by removing trash, sediment, decaying debris, and other solids from stormwater runoff. These materials are retained in a sump below the invert of the outlet pipe (older catch basins may not have a sump). Catch basin cleaning reduces foul odors, prevents clogs in the storm drain system, and reduces the loading of trash, suspended solids, nutrients, bacteria, and other pollutants to receiving waters. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees on catch basin inspection and cleaning to reduce the discharge of pollutants from the MS4. If services are contracted, this SOP should be provided to the contractor. The contract should specify that the contractor is responsible for compliance with all applicable laws.

This SOP can also be used for inspection of catch basins or manholes for the purpose of conducting catchment investigations as part of the municipality's Illicit Discharge Detection and Elimination program.

The Department of Public Works performs routine inspections, cleaning, and maintenance of the approximately 1,455 +/- catch basins that are located within the MS4 regulated area, generally with town owned equipment and staff. The Town of Uxbridge will include an optimization plan for catch basin cleaning and inspection in its annual report.

The Town of Uxbridge will implement the following catch basin inspection and cleaning procedures to reduce the discharge of pollutants from the MS4:

Procedures

Inspection and Cleaning Frequency

- Each catch basin should be cleaned and inspected at least annually.
- Catch basins near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment) or high-use areas should be inspected and cleaned more frequently if inspection finds excessive sediments or debris loadings.
- Catch basins should be cleaned to ensure that they are no more than 50 percent full[1] at any time. Establish inspection and maintenance frequencies needed to meet this "50 percent" goal. If a catch basin sump is more than 50 percent full during two consecutive inspections, document the findings, investigate the contributing drainage area for sources of excessive sediment loading, and, if possible, address the contributing sources. If no contributing sources are found, increase the inspection and cleaning frequencies of the sump.
- Street sweeping performed on an appropriate schedule will reduce the amount of sediment, debris, and organic matter entering the catch basins, which will in turn reduce the frequency with which they need to be cleaned. Reference SOP 16: Streets and Parking Lots for information on appropriate street sweeping frequencies. Street sweeping schedules should also be adjusted based on catch basin inspection findings, with more frequent sweepings for areas with higher catch basin loads.

[1] A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin

- In accordance with the Solids, Oil, and Grease (Hydrocarbons), or Metals requirements, the Town of Uxbridge will prioritize catch basin cleaning and inspection in catchments with TMDLs/impairments when creating their optimization schedule to ensure that these catch basins are no more than 50% full and reduce stormwater pollution to the Blackstone, Mumford and West Rivers.

Inspection and Cleaning Procedures

Catch basin inspection and cleaning procedures should address both the grate opening and the catch basin structure, including the sump and any inlet and outlet pipes. Document any and all observations about the condition of the catch basin structure and water quality (an inspection form and log of catch basins cleaned or inspected are included in the attachments). Collect data on the condition of the physical basin structure, its frame, and the grate, as well as on the quality of stormwater conveyed by the structure. Observations like those below can indicate sources of pollution within the storm drain system:

- Oil sheen
- Discoloration
- Trash and debris

Both oil and bacteria can create a sheen on the water's surface. The source of a sheen can be differentiating by disturbing it (e.g., with a pole). A sheen caused by oil will remain intact and move in a swirl pattern, while a sheen caused by bacteria will separate and appear "blocky." The bacteria that cause this sheen are naturally occurring iron bacteria – they are not considered a pollutant but should be noted. Other types of bacteria, such as fecal bacteria, are considered pollutants and their discovery should be recorded.

Observations like those below can indicate a potential connection of a sanitary sewer to the storm drain system, which is an illicit discharge:

- Indications of sanitary sewage, including fecal matter or sewage odors
- Foaming, such as from detergent
- Optical enhancers, fluorescent dye added to laundry detergent

In general, adhere to the following procedures when inspecting and cleaning catch basins. Record the findings in the log in the attachments:

1. Implement appropriate traffic safety procedures (e.g., traffic cones) prior to and during the catch basin inspection and cleaning process.
2. Work upstream to downstream in a given drainage network.
3. Clean sediment and trash off of the grate.
4. Visually inspect the outside of the grate.
5. Remove the grate and visually inspect the inside of the catch basin to determine cleaning needs.
6. Inspect the catch basin for structural integrity.
7. Determine the most appropriate equipment and method for cleaning the basin:
    a. Manually use a shovel to remove accumulated sediments.
    b. Use a bucket loader to remove accumulated sediments.
    c. Use a high pressure washer to clean any remaining material out of the catch basin while capturing the slurry with a vacuum.

d. If necessary, after the catch basin is cleaned, use the rodder of the vacuum truck to clean the downstream pipe and pull back sediment that might have entered it.

8. If contamination is suspected, chemical analysis will be required to determine if the materials comply with the Massachusetts Department of Environmental Protection (MassDEP) Hazardous Waste Regulations, 310 CMR 30.000 (https://www.mass.gov/files/documents/2016/08/xl/310cmr30_7883_54357.pdf). The chemical analysis required will depend on suspected contaminants. Note the identification number of the catch basin on the sample label and note sample collection on the Catch Basin Inspection Form.

Handling and Disposal of Catch Basin Cleanings

- Properly dispose of collected sediments and catch basin cleanings (solid material, such as leaves, sand, and twigs removed from stormwater collection systems during cleaning operations).
- Cleanings from stormwater-only drainage systems may be disposed at any landfill that is permitted by MassDEP to accept solid waste. MassDEP does not routinely require stormwater-only catch basin cleanings to be tested before disposal, unless there is evidence that they have been contaminated by a spill or some other means.
- Screenings may need to be placed in a drying bed to allow water to evaporate before proper disposal. In this case, ensure that the screenings are managed properly to prevent pollution.
- Catch basin cleanings must be handled and disposed in accordance with compliance with the applicable MassDEP regulations, policies, and guidance (https://www.mass.gov/files/documents/2018/03/09/catch-basins.pdf).

Documentation and Reporting

The following information should be documented and included in the municipality's annual report – use the catch basin inspection log provided in the attachments to document the information to include in the report (alternatively, obtain records of volume of debris removed to include in the report):

- Metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4 (include in the SWMP and first annual report)
- Any action taken in response to excessive sediment or debris loadings
- Total number of catch basins
- Number of catch basins inspected
- Number of catch basins cleaned
- Total volume or mass of material removed from catch basins.

Employee Training

- Employees who perform catch basin cleaning and inspection are trained ##NUMBER times per year on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Catch Basin Inspection Form and Log
2. Catch Basin Inventory

Related Standard Operating Procedures

1. SOP 16: Streets and Parking Lots

CATCH BASIN INSPECTION FORM

Job No.: _____ **Town:** _____ **Inspector:** _____ **Date:** _____

Catch Basin I.D.		**Final Discharge from Structure?** Yes ☐ No ☐ **If Yes, Discharge to Outfall No:** _____	
Catch Basin Label:	**Stencil** ☐ **Ground Inset** ☐ **Sign** ☐ **None** ☐ **Other** _____		
Basin Material:	Concrete ☐ Corrugated metal ☐ Stone ☐ Brick ☐ Other: _____ ☐	**Catch Basin Condition:**	Good ☐ Poor ☐ Fair ☐ Crumbling ☐
Pipe Material:	Concrete ☐ HDPE ☐ PVC ☐ Clay Tile ☐ Other: _____	**Pipe Measurements:**	Inlet Dia. (in): d= ____ Outlet Dia. (in): D= ____

Required Maintenance/ Problems (check all that apply):

- ☐ Tree Work Required
- ☐ New Grate is Required
- ☐ Pipe is Blocked
- ☐ Frame Maintenance is Required
- ☐ Remove Accumulated Sediment
- ☐ Pipe Maintenance is Required
- ☐ Basin Undermined or Bypassed
- ☐ Cannot Remove Cover
- ☐ Ditch Work
- ☐ Corrosion at Structure
- ☐ Erosion Around Structure
- ☐ Remove Trash & Debris
- ☐ Need Cement Around Grate

Other: _____

Catch Basin Grate Type:	**Sediment Buildup Depth:**	**More than 50% full?**	**Description of Flow:**	**Street Name/ Structure Location:**
Bar: ☐ Cascade: ☐ Other: _____ Properly Aligned: Yes ☐ No ☐	0-6 (in): ____ 6-12(in): ____ 12-18 (in): ____ 18-24 (in): ____ 24 + (in): ____	Yes ☐ No ☐	Heavy ☐ Moderate ☐ Slight ☐ Trickling ☐	

***If the outlet is submerged check yes and indicate approximate height of water above the outlet invert.** h above invert (in):_ Yes ☐ No ☐

☐ **Flow** ☐ **Standing Water** **(check one or both)**	**Observations:**		**Circle those present:**
	Color:		Foam / Oil Sheen Sanitary Waste / Bacterial Sheen Orange Staining / Floatables Excessive sediment / Pet Waste Other: _____ / Optical Enhancers
	Odor:		
Weather Conditions :	Dry > 24 hours ☐	Wet ☐	
Sample of Screenings Collected for Analysis? Yes ☐ No ☐			
Amount of sediment removed:			
Comments:			

Catch Basin Inspection and Cleaning Log
##MUNICIPALITY, Massachusetts

Date	Inspector	Weather Conditions	Number of Catch Basins Inspected/Cleaned	Amount of Material Removed	Catch Basins More Than 50% Full	Corrective Action Taken/Recommended if More Than 50% Full

SOP 9: Inspection and Maintenance of Structural Stormwater Best Management Practices (BMPs)

Introduction

Best Management Practices (BMPs) are policies, procedures and structures designed to reduce stormwater pollution, prevent contaminant discharges to natural water bodies, and reduce stormwater facility maintenance costs. Structural BMPs are permanent site features designed to treat stormwater before infiltrating it to the subsurface or discharging it to a surface water body. Regular inspection and maintenance of structural stormwater BMPs is critical for these engineered systems to function as designed (e.g., provide benefits to water quality, groundwater recharge, and peak flow attenuation).

This Standard Operating Procedure (SOP) provides general inspection and maintenance frequencies and procedures for eight common structural stormwater BMPs, including:

1. Bioretention Areas and Rain Gardens
2. Constructed Stormwater Wetlands
3. Extended Dry Detention Basins
4. Proprietary Media Filters
5. Sand and Organic Filters
6. Wet Basins
7. Dry Wells
8. Infiltration Basins

This SOP is based on the Massachusetts Stormwater Handbook and is not intended to replace the stormwater BMP Operation and Maintenance guidance contained in the Handbook. This SOP is also not intended to replace the Stormwater BMP Operation and Maintenance (O&M) Plan required by the Massachusetts Wetlands Protection Act, Order of Conditions.

The Department of Public Works is responsible for inspection and maintenance of structural stormwater BMPs and other stormwater infrastructure in Town. A list of existing structural stormwater BMPs is included in the attachments, along with inspection and maintenance checklists for each type of BMP.

Structural stormwater BMPs will be inspected annually at a minimum. Inspection checklists for each type of structural BMP are provided in the attachments.

Procedures

Bioretention Areas and Rain Gardens

Bioretention areas and rain gardens are shallow depressions filled with sandy soil, topped with a thick layer of mulch, and planted with dense native vegetation. There are two types of bioretention cells:

1. Filtering bioretention area: Areas that are designed solely as an organic filter.
2. Exfiltration bioretention area: Areas that are configured to recharge groundwater in addition to acting as a filter.

Inspection and Maintenance

Regular inspection and maintenance are important to prevent against premature failure of bioretention areas or rain gardens. Regular inspection and maintenance of pretreatment devices and bioretention cells for sediment buildup, structural damage and standing water can extend the life of the soil media.

Maintenance Schedule: Bioretention Areas and Rain Gardens

Activity	Time of Year	Frequency
Inspect for soil erosion and repair	Year round	Monthly
Inspect for invasive species and remove if present	Year round	Monthly
Remove trash	Year round	Monthly
Mulch Void Areas	Spring	Annually
Remove dead vegetation	Fall and spring	Bi-annually
Replace dead vegetation	Spring	Annually
Prune	Spring or fall	Annually
Replace all media and vegetation	Late spring/early summer	As needed

When failure is discovered, excavate the bioretention area, scarify the bottom and sides, replace the filter fabric and soil, replant vegetation, and mulch the surface.

Never store snow within a bioretention area or rain garden. This would prevent the recharge and water quality treatment of ground water.

Constructed Stormwater Wetlands

Constructed stormwater wetlands maximize pollutant removal from stormwater through the use of wetland vegetation uptake, retention, and settling. Constructed storm water wetlands must be used in conjunction with other BMPs, such as sediment forebays.

Inspection and Maintenance

Regular inspection and maintenance are important for the health of constructed stormwater wetlands. They help identify the need for replacement of vegetation and media, detect potentially harmful invasive species, and ensure the overall health of the wetland.

Maintenance Schedule, Constructed Stormwater Wetlands: Years 0-3

Activity	Time of Year	Frequency
Inspect for invasive species and remove if present	Year round	Monthly
Record and Map:	Year round	Annually
Types and distribution of dominant wetland plants	Year round	Bi-annually
Presence and distribution of planted wetland species	Spring	Annually
Presence and distribution of invasive species	Fall and spring	Bi-annually
Indications other species are replacing planted wetland species	Spring	Annually
Percent of standing water that is not vegetated	Spring or fall	Annually
Replace all media and vegetation	Late spring/early summer	As needed

Stability of original depth zones and micro-topographic features		
Accumulation of sediment in the forebay and micropool and survival rate of plants		

Maintenance Schedule, Constructed Stormwater Wetlands: Years 4-Lifetime

Activity	Time of Year	Frequency
Inspect for invasive species and remove if present	Year round	Monthly
Clean forebays	Year round	Annually
Clean sediment in basin/wetland system	Year round	Once every 10 years
Mulch Void Areas	Spring	Annually
Remove dead vegetation	Fall and spring	Bi-annually
Replace dead vegetation	Spring	Annually
Prune	Spring or fall	Annually
Replace all media and vegetation	Late spring/early Summer	As needed

Never store snow within a constructed stormwater wetland. This would prevent required water quality treatment and the recharge of groundwater.

Extended Dry Detention Basins

Extended dry detention basins are designed to control both stormwater quantity and quality. These BMPs are designed to hold stormwater for at least 24 hours, allowing solids to settle and reducing local and downstream flooding. Pretreatment is required to reduce the potential for overflow clogging. The outflow may be designed as either fixed or adjustable. Additional nutrient removal may be achieved by a micropool or shallow marsh.

Inspection and Maintenance

Annual inspection of extended dry detention basins is required to ensure that the basins are operating properly. Potential problems include: erosion within the basin and banks, tree growth on the embankment, damage to the emergency spillway, and sediment accumulation around the outlet. Should any of these problems be encountered, necessary repairs should be made immediately.

Maintenance Schedule: Extended Dry Detention Basins

Activity	Time of Year	Frequency
Inspect basins	Spring and fall	Bi-annually and during and after major storms
Examine outlet structure for clogging or high outflow release velocities	Spring and fall	Bi-annually
Mow upper stage, side slopes, embankment and emergency spillway	Spring through fall	Bi-annually
Remove trash and debris	Spring	Bi-annually
Remove sediment from basin	Year round	At least once every 5 years

Proprietary Media Filters

Media Filters are designed to reduce total suspended solids and other target pollutants, such as organics, heavy metals, or nutrients – these materials are sorbed onto the filter media, which is contained in a concrete structure. The substrate used as filter media depends on the target pollutants, and may consist of leaf compost, pleated fabric, activated charcoal, perlite, amended sand in combination with perlite, and zeolite. Two types of Media Filters are manufactured: Dry media filters, which are designed to dewater within 72 hours, and wet media filters, which maintain a permanent pool of water as part of the treatment system.

Inspection and Maintenance

Maintenance in accordance with the manufacturer's requirements is necessary to ensure stormwater treatment. Inspection or maintenance of the concrete structure may require OSHA confined space training. Dry media filters are required to dewater in 72 hours, thus preventing mosquito and other insect breeding. Proper maintenance is essential to prevent clogging. Wet media filters require tight fitting seals to keep mosquitoes and other insects from entering and breeding in the permanent pools. Required maintenance includes routine inspection and treatment.

Maintenance Schedule: Proprietary Media Filters

Activity	Time of Year	Frequency
Inspect for standing water, trash, sediment and clogging	Per manufacturer's schedule	Bi-annually (minimum)
Remove trash and debris	N/A	Each inspection
Examine to determine if system drains in 72 hours	Spring, after large storm	Annually
Inspect filtering media for clogging	Per manufacturer's schedule	Per manufacturer's schedule

Sand and Organic Filters

Sand and organic filters, also known as filtration basins, are intended for stormwater quality control rather than quantity control. These filters improve water quality by removing pollutants through a filtering media and settling pollutants on top of the sand bed and/or in a pretreatment basin. Pretreatment is required to prevent filter media from clogging. Runoff from the filters is typically discharged to another BMP for additional treatment.

Inspection and Maintenance

If properly maintained, sand and organic filters have a long life. Maintenance requirements of the filters include raking the sand and removing sediment, trash, and debris from the surface of the BMP. Over time, fine sediments will penetrate deep into the sand requiring replacement of several inches or the entire sand layer. Discolored sand is an indicator of the presence of fine sediments, suggesting that the sand should be replaced.

Maintenance Schedule: Sand and Organic Filters

Activity	Frequency
Inspect filters and remove debris	After every major storm for the first 3 months after construction completion. Every 6 months thereafter.

Wet Basins

Wet basins are intended to treat stormwater quality through the removal of sediments and soluble pollutants. A permanent pool of water allows sediments to settle and removes the soluble pollutants, including some metals and nutrients. Additional dry storage is required to control peak discharges during large storm events. If properly designed and maintained, wet basins can add fire protection, wildlife habitats, and aesthetic values to a property.

Inspection and Maintenance

To ensure proper operation, wet basin outfalls should be inspected for evidence of clogging or excessive outfall releases. Potential problems to investigate include erosion within the basin and banks, damage to the emergency spillway, tree growth on the embankment, sediment accumulation around the outlet, and the emergence of invasive species. Should any of these problems be encountered, perform repairs immediately. An on-site sediment disposal area will reduce sediment removal costs.

Maintenance Schedule: Wet Basins

Activity	Time of Year	Frequency
Inspect wet basins	Spring and/or fall	Annually (Minimum)
Mow upper stage, side slopes, embankment and emergency spillway	Spring through fall	Bi-annually (Minimum)
Remove sediment, trash and debris	Spring through fall	Bi-annually (Minimum)
Remove sediment from basin	Year round	As required, but at least once every 10 years

Dry Wells

Dry wells are used to infiltrate uncontaminated runoff. These BMPs should never be used to infiltrate stormwater or runoff that has the potential to be contaminated with sediment and other pollutants. Dry wells provide groundwater recharge and can reduce the size and cost required of downstream BMPs or storm drains. However, they are only applicable in drainage areas of less than one acre and may experience high failure rates due to clogging.

Inspection and Maintenance

Proper dry well function depends on regular inspection. Clogging has the potential to cause high failure rates. The water depth in the observation well should be measured at 24 and 48 hour intervals after a storm and the clearance rate calculated. The clearance rate is calculated by dividing the drop in water level (inches) by the time elapsed (hours).

Maintenance Schedule: Dry Wells

Activity	Frequency
Inspect dry wells	After every major storm for the first 3 months after construction completion. Annually thereafter.

Infiltration Basins

Infiltration basins are designed to contain stormwater and provide groundwater recharge. Pollution prevention and pretreatment are required to ensure that contaminated stormwater is not infiltrated. Infiltration basins reduce local flooding and preserve the natural water balance of the site. High failure rates, however, often occur due to improper siting, inadequate pretreatment, poor design, and lack of maintenance.

Inspection and Maintenance

Regular maintenance is required to prevent clogging, which results in infiltration basin failure. Clogging may be due to upland sediment erosion, excessive soil compaction, or low spots. Inspections should include signs of differential settlement, cracking, erosion, leakage in the embankments, tree growth on the embankments, riprap condition, sediment accumulation, and turf health.

Maintenance Schedule: Infiltration Basins

Activity	Time of Year	Frequency
Preventative maintenance	Spring and fall	Bi-annually
Inspection	Spring and fall	After every major storm for the first 3 months after construction completion. Bi-annually thereafter and discharges through the high outlet orifice.
Mow/rake buffer area, side slopes and basin bottom	Spring and fall	Bi-annually
Remove trash, debris and organic matter	Spring and fall	Bi-annually

Employee Training

- Employees who perform inspection or maintenance on structural BMPs are trained ##NUMBER times per year on proper procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Structural BMP Inventory Template
2. Structural BMP Inspection and Maintenance Checklists

Inventory of Structural Stormwater Best Management Practices (BMPs)
##MUNICIPALITY, Massachusetts

BMP ID or Description	Location	BMP Type	Inspection Frequency	Date of Last Inspection	Additional Notes

INSPECTION OF BIORETENTION AREAS / RAIN GARDENS|

General Information

BMP Description	Bioretention Area / Rain Garden		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for soil erosion and repair	Monthly	Yes ☐ No ☐	
Inspect for invasive species and remove if present	Monthly	Yes ☐ No ☐	
Remove trash	Monthly	Yes ☐ No ☐	
Mulch void areas	Annually	Yes ☐ No ☐	
Remove dead vegetation	Bi-Annually	Yes ☐ No ☐	
Replace dead vegetation	Annually	Yes ☐ No ☐	
Prune	Annually	Yes ☐ No ☐	
Replace all media and vegetation	As Needed	Yes ☐ No ☐	

INSPECTION OF CONSTRUCTED STORMWATER WETLANDS
Years 0-3 of Operation

General Information

BMP Description	Constructed Stormwater Wetland		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for invasive species and remove if present	Monthly	Yes ☐ No ☐	
Replace all media and vegetation	As Needed	Yes ☐ No ☐	

In addition, the following information should be recorded and mapped at least once per year:

- Types and distribution of dominant wetland plants
- Presence and distribution of planted wetland species
- Presence and distribution of invasive species
- Indications other species are replacing planted wetland species
- Percent of standing water that is not vegetated
- Replace all media and vegetation
- Stability of original depth zones and micro-topographic features
- Accumulation of sediment in the forebay and micropool and survival rate of plants

INSPECTION OF CONSTRUCTED STORMWATER WETLANDS
Year 4 - Lifetime of Operation

General Information

BMP Description	Constructed Stormwater Wetland		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for invasive species and remove if present	Monthly	Yes ☐ No ☐	
Clean forebays	Annually	Yes ☐ No ☐	
Clean sediment in basin/wetland system	Once every 10 years	Yes ☐ No ☐	
Mulch void areas	Annually	Yes ☐ No ☐	
Remove dead vegetation	Bi-Annually	Yes ☐ No ☐	
Replace dead vegetation	Annually	Yes ☐ No ☐	
Prune	Annually	Yes ☐ No ☐	
Replace all media and vegetation	As Needed	Yes ☐ No ☐	

INSPECTION OF EXTENDED DRY DETENTION BASINS

Inspections should be conducted bi-annually, and during and after major storm events.

General Information

BMP Description	Extended Dry Detention Basin		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Examine outlet structure for clogging or high outflow release velocities	Bi-Annually	Yes ☐ No ☐	
Mow upper stage, side slopes, embankment and emergency spillway	Bi-Annually	Yes ☐ No ☐	
Remove trash and debris	Bi-Annually	Yes ☐ No ☐	
Remove sediment from basin	At least once every 5 years	Yes ☐ No ☐	

INSPECTION OF PROPRIETARY MEDIA FILTERS

General Information

BMP Description	Media Filter		
BMP Location			
Media Type			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Inspect for standing water, trash, sediment and clogging	Bi-Annually (minimum)	Yes ☐ No ☐	
Remove trash and debris	Each Inspection	Yes ☐ No ☐	
Examine to determine if system drains in 72 hours	Annually	Yes ☐ No ☐	
Inspect filtering media for clogging	Per manufacturer's schedule	Yes ☐ No ☐	

INSPECTION OF SAND AND ORGANIC FILTERS

Inspections should be conducted after every major storm event for the first 3 months following completion, then every 6 months thereafter.

General Information

BMP Description	Sand/Organic Filter		
BMP Location			
Media Type			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Remove sediment, trash, and debris	Every 6 months	Yes ☐ No ☐	
Rake sand	Every 6 months	Yes ☐ No ☐	

INSPECTION OF DRY WELLS

Regular inspections should be conducted after every major storm event for the first 3 months following completion, then annually thereafter.

General Information

BMP Description	Dry Well		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			
Describe condition of dry well at time of inspection			

After a major storm event, the water depth in the observation well should be measured at 24 and 48 hour intervals and the clearance rate calculated.

INSPECTION OF WET BASINS

Inspections should be conducted after every major storm event for the first 3 months following completion, then biannually thereafter.

General Information

BMP Description	Wet Basin		
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			
Describe condition of wet basin at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
Preventative maintenance	Bi-Annually	Yes ☐ No ☐	
Mow/rake buffer area, side slopes and basin bottom	Bi-Annually	Yes ☐ No ☐	
Remove trash, debris and organic matter	Bi-Annually	Yes ☐ No ☐	
Inspect and clean pretreatment devices	Every other month and after every major storm event	Yes ☐ No ☐	

INSPECTION OF OTHER BMP

General Information

BMP Description			
BMP Location			
Inspector's Name			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Type of Inspection: Regular ☐ Pre-Storm Event ☐ During Storm Event ☐ Post-Storm Event ☐			
Describe the weather conditions at time of inspection			

Specific Information

Maintenance Activity	Maintenance Frequency	Is Status of BMP Satisfactory?	Corrective Action Needed
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	
		Yes ☐ No ☐	

SOP 16: Streets and Parking Lots

Introduction

Regular sweeping of streets and municipally-owned parking lots is important for maintaining clean and safe roadways. It also plays a vital role in keeping pollutants like sand, trash, and leaves out of the MS4. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees on street and parking lot sweeping procedures and frequencies to reduce the discharge of pollutants to the storm drainage system and receiving waters. If sweeping services are contracted, this SOP should be provided to the contractor. The contract should specify that the contractor is responsible for compliance with all applicable laws.

Streets and municipally-owned parking lots are swept by the Department of Public Works utilizing town owned equipment and staff. The streets are generally swept once per year.

Procedures

The Town of Uxbridge ("Town") will implement the following street and parking lot sweeping procedures to reduce the discharge of pollutants from the MS4:

Sweeping Frequency

- All streets should be swept and/or cleaned a minimum of once per year in the spring (with the exception of rural uncurbed roads with no catch basins or high speed limited access highways).
- Sweep as soon as possible after snow melt and following winter activities such as sanding to capture sand and debris before it is washed into the storm drainage system.
- Consider more frequent sweeping for targeted areas based on pollutant load reduction potential, inspections, pollutant loads, catch basin cleaning or inspection results, land use, impaired waters, or other factors.
- For rural uncurbed roadways with no catch basins and limited access highways, the Town will either meet the minimum frequencies above, or develop and implement an inspection, documentation, and targeted sweeping plan outlining reduced frequencies within two (2) years of the effective date of the MS4 Permit, and submit such plan with its year one annual report.
- In accordance with phosphorus impairment requirements, the Town will conduct more frequent sweeping for municipally-owned streets and parking lots. Sweeping will be performed in these areas a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept. 1 – Dec. 1; following leaf fall) to reduce runoff to the Blackstone River. Streets with outfalls discharging to the Blackstone River will be targeted..
- In accordance with metal impairment requirements, the Town will increase street sweeping frequency in commercial areas, high density residential areas, or drainage areas with a large amount of impervious area. Town owned streets and parking lots with outfalls discharging to the Blackstone, Mumford and West Rivers will be targeted..
- The Town's annual report will include the sweeping schedule developed above to target areas with high pollutant loads.
- In accordance with hydrocarbon impairment requirements, the Town will develop a schedule for increased street sweeping frequency to reduce pollutant discharges from areas with high pollutant

loads. Town owned streets and parking lots with outfalls discharging to the Blackstone, Mumford and West Rivers will be targeted..

- The Town's annual report will include the street sweeping schedule developed above to target areas with high pollutant loads.

Sweeping Practices

- Street sweeping should be conducted in dry weather. Sweeping should not be conducted during or immediately after rain storms.
- Dry cleaning methods should be used whenever possible, with the exception of very fine water spray for dust control. Avoid wet cleaning or flushing of the pavement.
- When necessary, enact parking bans to facilitate sweeping on busy streets.
- Sweep in a manner that avoids depositing debris into storm drains.
- Sweeping equipment (mechanical, regenerative air, vacuum filter, tandem sweeping) should be selected depending on the level of debris. Brush alignment, sweeper speed, rotation rate, and sweeping pattern should be set to optimal levels to manage debris.
- Routinely inspect and perform maintenance on sweeping equipment to reduce the potential for leaks. See SOP 21: Operations and Maintenance of Municipal Vehicles and Equipment for more information.

Sweepings Reuse and Disposal

- The reuse of sweepings is recommended by MassDEP. If street sweepings are reused (e.g., as anti-skid material or fill in parking lots), they should be properly filtered to remove solid waste, such as paper or trash, in accordance with their intended reuse. All reuse and/or disposal of street sweepings will be managed in accordance with current MassDEP policies and regulations.
- Sweepings intended for reuse can be stored for up to one year in approved temporary storage areas. Storage areas should be protected to prevent erosion and runoff and should be located away from wetland resource areas and buffer zones, surface water, or groundwater.
- Sweepings are classified as solid waste. If not reused, they should be disposed of at solid waste disposal sites.
- For additional information on approved reuses of sweepings and storage/disposal policies, refer to MassDEP policy #BAW-18-001: Reuse and Disposal of Street Sweeping (https://www.mass.gov/files/documents/2018/05/14/street-sweepings.pdf).
- The Town will store sweepings intended for reuse at the Department of Public Works, 147 Hecla Street in accordance with MS4 regulations. Street sweepings will be disposed of properly.

Documentation and Reporting

The following information should be documented and included in each annual report:

- Number of miles cleaned or the volume or mass of material removed (refer to the sweeping log in the attachments).

Employee Training

- Employees who perform street and parking lot sweeping are trained ##NUMBER times per year on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.

- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Street and Parking Lot Sweeping Log

Related Standard Operating Procedures

1. SOP 21: Operations and Maintenance of Municipal Vehicles and Equipment

Street Sweeping Log
##MUNICIPALITY, Massachusetts

Date	Operator	Weather Conditions	Streets/Parking Lots Swept	Number of Miles Swept	Volume/Mass of Material Removed	Corrective Action Taken/Recommended

SOP 18: Winter Road Maintenance

Introduction

Winter road maintenance includes snow removal and the use of salt, sand, or deicers to ensure safe winter driving conditions. Proper maintenance procedures and use and storage of materials can help reduce the discharge of pollutants, such as sand and salt, from the MS4 and to receiving waters. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees on the use and storage of salt and sand, minimizing the use of salt, evaluating opportunities for use of alternative materials, and ensuring that snow disposal activities to not result in disposal of snow into surface waters. If services are contracted, this SOP should be provided to the contractor. The contract should specify that the contractor is responsible for compliance with all applicable laws.

The Town of Uxbridge ("Town") performs a variety of maintenance activities to ensure safe winter driving conditions on its roads and parking lots. These tasks are performed by Town staff using Town equipment along with some services being contracted.

Procedures

The Town will implement the following winter maintenance procedures to reduce the discharge of pollutants from the MS4:

Equipment and Maintenance

- Calibrate equipment to reduce and optimize salt use and ensure deicing agents are being used efficiently. Provide employee training on proper calibration procedures.
- Do not overfill trucks with deicing materials as it may lead to spills.
- Encourage the use of automated application equipment like zero velocity spreaders.
- When possible, retrofit vehicles to include equipment such as on-board application regulators, temperature sensors for air and pavement, and anti-icing and pre-wetting equipment.
- Wash equipment using proper procedures to prevent pollutants from entering the stormwater system. Dry cleanup procedures should be used when possible. Vehicles dirtied from salt or sand application should be washed according to procedures in SOP 21: Operations and Maintenance of Municipal Vehicles and Equipment.
- Regularly inspect and maintain equipment to reduce the potential for leaks. See SOP 21: Operations and Maintenance of Municipal Vehicles and Equipment for more information.

Anti-icing and Deicing

- Minimize the use and optimize the application of sodium chloride and other salt[1] (while maintaining public safety) and consider opportunities for use of alternative materials.
- Optimize sand and/or chemical application rates through the use, where practicable, of automated application equipment (e.g., zero velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals.

[1] For purposes of the MS4 Permit, salt means any chloride-containing material used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

- Remove as much snow as possible using mechanical means like plowing, blowing, or shoveling before deicing to reduce the need for road salt or other deicing chemicals.
- When possible, use anti-icing practices to prevent ice formation and reduce the need for deicers.
- Apply anti-icing agents 1-2 hours before winter weather events to ensure optimal performance (can be applied up to 24 prior).
- Only apply road salt when the pavement temperature is above 15° F.
- When using deicers, use pre-wetting agents (e.g., salt brine) to help them work more efficiently and to reduce road salt scatter and bounce.
- Salt brine solution used for anti-icing and pre-wetting can be stored for up to a year –concentration should be tested before use. If temperatures fall below 0° F, use a circulator pump to prevent the brine from freezing.
- Use alternative deicing materials instead of sodium chloride as appropriate (e.g., calcium magnesium acetate, magnesium chloride, or calcium chloride).
- Avoid mixing road salt and sand. Doing so makes both the salt and sand work less efficiently and leads to over-application.
- Only apply enough deicer so that plows can remove the snow and ice. Adjust the application rate of deicers based on the type of storm, type of agent used, and anti-icing and pre-wetting techniques used.
- Perform unloading/loading of trucks on impervious surfaces whenever possible. These areas should be frequently cleaned and swept to reduce the tracking and runoff of salt and to capture any spills.
- Track the amount of deicer used and maintain records of the application of sand, anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet established goals.

Storage of Deicing Materials

- Prevent exposure of deicing product (salt, sand, or alternative products) storage piles to precipitation by enclosing or covering the storage piles. Implement good housekeeping, diversions, containment or other measures to minimize exposure resulting from adding to or removing materials from the pile. Store piles in such a manner as not to impact surface water resources, groundwater resources, recharge areas, and wells.
- Store materials under covered or enclosed areas and on impervious surfaces.
- Ensure that there are adequate drainage controls in storage areas to prevent runoff from entering the stormwater system.
- Follow appropriate loading and unloading procedures. If there are spills when loading or unloading materials, follow the protocol outlined in SOP 4: Spill Response and Cleanup.
- Frequently sweep near the storage/loading areas to reduce the amount of salt, sand, or other materials that is tracked out.
- For liquid deicing chemicals, provide secondary storage containment.
- Do not store road salt near drinking water supplies, surface water resources, groundwater resources, recharge areas, and wells. Follow proper storage guidelines from MassDEP (https://www.mass.gov/guides/guidelines-on-road-salt-storage).

- In accordance with the requirements for municipalities discharging to chloride impaired waters, the Town will develop a Salt Reduction Plan to reduce the use of salt on all municipal roads, parking lots, and facilities (both municipally and privately owned facilities that discharge to the stormwater system). This plan must be completed within three years of the effective date of the MS4 Permit and must be fully implemented five years after the effective date of the permit.
- The plan will include the following for municipally maintained surfaces and facilities:
    - Starting the year the Salt Reduction Plan is completed, the Town will track the type of salt and amount used on all municipal roads, parking lots, and other surfaces.
    - The Salt Reduction Plan may include the following::
        - Operational changes to deicing procedures, which may include: pre-wetting, pre-treating the salt stockpile, increased plowing before deicing, monitoring road surface temperatures, etc.
        - The use of new or retrofitted equipment that includes pre-wetting capabilities, better calibration rates, or other capabilities that minimize salt use.
        - Proper training for employees or contractors engaged in winter maintenance activities
        - Regular calibration of spreading equipment.
        - Designation of no-salt and/or low-salt zones.
        - Measures to prevent exposures of salt stockpiles to precipitation and runoff (when applicable).
        - An estimate of total tonnage of salt reduction expected by each activity.
        - Adoption of guidelines for application rates for roads and parking lots (see *Winter Parking Lot and Sidewalk Maintenance Manual (Revised edition June 2008)* http://www.pca.state.mn.us/publications/parkinglotmanual.pdf and the application guidelines on page 17 of *Minnesota Snow and Ice Control: Field Handbook for Snow Operators (September 2012)* http://www.mnltap.umn.edu/publications/handbooks/documents/snowice.pdf
    - For privately owned facilities within the regulated MS4 area that discharge to the storm system:
        - The Town will establish an ordinance, bylaw, or other regulatory mechanism requiring measures to prevent exposure of any salt stockpiles to precipitation and runoff at all commercial and industrial properties.
    - The completed Salt Reduction Plan will be submitted to USEPA along with the annual report following the Salt Reduction Plan's completion. Each subsequent annual report should include an update on the Plan's implementation progress and any updates to the Plan deemed necessary by the municipality, as well as the types and amount of salt applied to all municipally owned and maintained surfaces.
    - The Town will follow proper snow storage and disposal protocol outlined by MassDEP to ensure that snow that has been potentially contaminated by road salt or other chlorides does not enter the MS4.

Snow Storage and Disposal

- Snow should not be pushed or dumped into waterbodies or wetlands, into stormwater drainage swales or ditches, or on top of catch basins.
- Snow should not be stored near drinking water areas, waterbodies, or wetlands.

- Avoid storing snow in areas that are unstable, areas of potential erosion, or high points where snow may melt and collect debris as runoff before it enters the stormwater system.
- Consider sun exposure when storing snow. Snow in areas with higher sun exposure will melt faster but may require deicers if the snowmelt refreezes.
- Consider practices such as living snow fences to contain snow piles and reduce snow drifting.
- The MS4 Permit prohibits snow disposal into waters of the United States. Snow disposal and storage activities, including selection of appropriate snow disposal sites, will adhere to the MassDEP Snow Disposal Guidance, Guideline No. BWR G2015-01 (http://www.mass.gov/eea/agencies/massdep/water/regulations/snow-disposal-guidance.html).
- The Town currently disposes of snow at the DPW facilities in compliance with MS4 regulations.

Reporting

The Town will document and include the following information in its annual report:

- Road miles treated
- Type and amount of deicer used
- Equipment calibration records
- Employee training dates

Employee Training

- Employees who perform winter road maintenance are trained a minimum of one time per year on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Related Standard Operating Procedures

1. SOP 4: Spill Response and Cleanup
2. SOP 21: Operations and Maintenance of Municipal Vehicles and Equipment

SOP 19: Operations and Maintenance of Parks and Open Spaces

Introduction

Parks and open space operations and maintenance activities commonly involve the operation of equipment such as mowers and tractors; disposal of waste from mowing, planting, weeding, raking, pruning, and trash collection; application of pesticides, herbicides, and fertilizers; cleaning and maintenance of park amenities such as play equipment, restrooms, and structures; and snow removal. These activities have the potential to generate contaminants such as sediments and toxic chemicals that may be picked up by rainwater, thereby entering the storm drainage system and receiving waters. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees to reduce the discharge of pollutants from the MS4 and to receiving waters as a result of parks and open space operations and maintenance. If services are contracted, this SOP should be provided to the contractor. The contract should specify that the contractor is responsible for compliance with all applicable laws.

The Town of Uxbridge ("Town") performs a variety of operations and maintenance activities at its municipal parks and open spaces. These tasks are performed by Town staff using Town equipment along with some services being contracted.

Within two years of the effective date of the MS4 Permit, the Town will create an inventory of all municipal parks and open spaces and update this inventory annually (refer to the attached inventory template).

Procedures

The Town will implement the following procedures at municipal parks and open spaces to reduce the discharge of pollutants from the MS4:

General

- Repair damage to landscaped or mulch or vegetated bare areas as soon as possible to prevent erosion. If there are areas of erosion or poor vegetation, repair them as soon as possible, especially if they are within 50 feet of a surface water (e.g., pond, lake, or river).
- Remove (sweep or shovel) materials such as soil, mulch, and grass clippings from parking lots, streets, curbs, gutters, sidewalks, and drainage-ways.
- Do not clean up any unidentified or possibly hazardous materials found during maintenance; notify a supervisor immediately.

Maintenance

- Wastewater from power washing signs, structures, or bleachers cannot be discharged into the stormwater system.
- When painting park equipment, use a drop cloth and clean up any spills immediately.
- Do not leave open containers on the ground where they may accidentally tip over.
- Sweep parking lots with a street sweeper and dispose of street sweepings in designated areas (see SOP 16: Streets and Parking Lots).
- Never wash debris from parking lots into the storm drain.

Mowing

- Remove debris and trash from landscaped areas prior to mowing.
- Collect grass clippings and leaves after mowing. Do not blow or wash them into the street, gutter, or storm drains.
- Properly recycle or dispose of organic waste after mowing, weeding, and trimming.
- Reduce mowing frequencies wherever possible by establishing low/no-mow areas in lesser-used spaces.
- Brush off mowers (reels and decks) and tractors over grassy areas or in contained washout areas.
- Leave clippings on grassy areas or dispose of them in the trash or by composting.
- Do not hose off mowers over paved areas that drain into the MS4 or directly to surface waters.
- Follow proper vehicle and equipment maintenance procedures to prevent leaks (see SOP 21: Operations and Maintenance of Municipal Vehicles and Equipment)
- Do not allow grease from mowers to fall onto areas where they can be washed into the stormwater system.

Irrigation

- Repair broken sprinkler heads as soon as possible.
- Only irrigate at a rate that can infiltrate into the soil to limit run-off.
- Avoid irrigating close to impervious surfaces such as parking lots and sidewalks.

Landscaping

- When establishing new plantings, use alternative landscaping materials, such as drought resistant or native plants to reduce the need for irrigation and extensive application of fertilizers and pesticides.
- Follow proper fueling procedures for all equipment to ensure that petroleum products do not enter the stormwater system (see SOP 7: Fuel and Oil Handling Procedures).
- Fertilizers, herbicides, and pesticides should be properly used, stored, and handled (see SOP 12: Storage and Use of Pesticides and Fertilizer).
- Municipalities that discharge into waters with phosphorus or nitrogen Total Maximum Daily Loads (TMDLs) (including the Cape Cod nitrogen and Assabet River phosphorus TMDLs):
    - In accordance with phosphorous impairment requirements, the Town will use slow-release fertilizers in addition to reducing fertilizer use to reduce runoff to the Blackstone River. Phosphorus will only be applied in areas where a soil test indicates that it is not present in sufficient quantities. Phosphorus-free fertilizer options will be considered.

- The Town discharges into the following phosphorus impaired waterbodies: Blackstone River. Under MS4 Permit requirements, the Town acknowledges that blowing organic waste material (grass cuttings, leaf litter) is strictly prohibited.

Snow Removal

- Store salt or sand for snow removal indoors under a roof or in a covered container and on impervious surfaces.
- See SOP 18: Winter Road Maintenance for more information on proper snow disposal and storage procedures.
- Any damage done to vegetated areas caused by plows or deicing materials should be repaired as early as possible in the spring.

Trash Management

- All waste and recycling containers must be leak-tight with tight-fitting lids or covers.
- Place waste and recycling containers indoors or under a roof or overhang whenever possible.
- Clean and sweep up around outdoor waste containers regularly.
- Arrange for waste and recyclables to be picked up regularly and disposed of at approved disposal facilities.
- Do not wash out waste or recycling containers outdoors or in a parking lot.
- Conduct periodic inspections of waste areas to check for leaks and spills.
- Ensure there are enough trash and recycling containers at appropriate areas.
- Monitor waste and recycling containers at heavily-used sites and on holidays to ensure that there is no overflow.

Other Activities

- Provide pet waste stations with bags and trash receptacles where pets are permitted. Post signs describing the proper disposal of pet waste.
- All portable toilets should be staked down in flat, secure locations where they are less likely to be knocked down or blown over. They should be placed in a location that would retain any spillage from washing into the MS4 or receiving waters. Ensure routine maintenance and cleaning of portable toilets.
- Identify undesirable waterfowl congregation areas and take steps to prevent waterfowl droppings from entering the stormwater system or surrounding waterbodies.
    - Take measures to discourage congregation near waterbodies and the storm system (e.g., use strobe lights or reflective tape, establish no-mow zones to reduce available feeding areas, or plant thick vegetation along waterlines). If waterfowl congregation cannot be managed, then isolate the drainage from congregation areas away from the storm system and waterbodies.

Install signage to educate the public on the negative effects of waterfowl feces entering the stormwater system or nearby waterbodies in order to discourage public feeding. Alternatively, enact feeding bans.

Employee Training

- Employees who perform maintenance or other applicable work at municipal parks and open spaces are trained a minimum of one time per year on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Inventory of Municipal Parks and Open Spaces

Related Standard Operating Procedures

- SOP 7: Fuel and Oil Handling Procedures
- SOP 12: Storage and Use of Pesticides and Fertilizer
- SOP 16: Streets and Parking Lots
- SOP 18: Winter Road Maintenance
- SOP 21: Operations and Maintenance of Municipal Vehicles and Equipment

Inventory of Municipal Parks and Open Spaces
##MUNICIPALITY, Massachusetts

Name of Park/Open Space	Location	Manager/Contact – Name, Position, Department, Phone Number	Potential Stormwater Pollutant Sources (e.g., trash containers, fertilizers, fuel)